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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/828,564

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Yogendra Joshi

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EXAMINER

PATEL, NIHIR B

ART UNIT

PAPER NUMBER

3772

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/828,564	<b>Applicant(s)</b> JOSHI ET AL.	
	<b>Examiner</b> NIHIR PATEL	<b>Art Unit</b> 3772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04.02.2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4-6 and 23-38 is/are pending in the application.
- 4a) Of the above claim(s) 4-6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-26, 29, 32, 33 and 36 is/are rejected.
- 7) ☒ Claim(s) 27, 28, 30, 31, 34, 35, 37 and 38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claim 23 have been considered but are moot in view of the new ground(s) of rejection.

### *Allowable Subject Matter*

2. The indicated allowability of claim 23 is withdrawn in view of the newly discovered reference(s). Rejections based on the newly cited reference(s) follow.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims **23-26 and 32** are rejected under 35 U.S.C. 102(b) as being anticipated by Terao et al. (US 6,005,772).
5. **As to claim 23**, Terao teaches an apparatus that comprises a central evaporator **6 (see figure 3; col. 7 lines 25-35)** in contact with the heat-dissipating component **3 (see figure 3; col. 7 lines 25-35)**, wherein the central evaporator comprises a first plate having an interior major surface and an exterior major surface (**see figure 3; col. 7 lines 35-67**); a second plate, generally parallel to, spaced from, and similar in planar dimension to the first plate, having an interior major surface and an exterior major surface (**see figure 3; col. 7 lines 35-67**), the interior major

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surface opposing the interior major surface of the first plate, with a central parallel plane passing through the space therebetween, the second plate exterior major surface in contact with at least a portion of the component and extending outside the limits of that portion of the component, wherein the interior major surface define an evaporator volume (**see col. 7 lines 35-67**); a condenser **4** (**see figure 3; col. 4 lines 35-67 and col. 8 lines 1-5**) in fluid communication with and extending around the periphery of the evaporator, wherein the condenser comprises a first wall extending from each evaporator plate (**see figure 3**), the first wall having an interior surface (**see figure 3**), a proximate edge and a distal edge, the proximal edge sealingly joined to the periphery of the respective plate, and the first wall extending perpendicularly from the entire periphery of each plate in a direction away from the central plane for a substantially constant distance, whereby the distal edge is substantially parallel to the plates; a second wall extending from each respective first wall, second wall having an interior surface, a proximate edge and a distal edge, the proximate edge of each second wall sealingly joined to an extending perpendicularly from the entire distal edge of the adjoining first wall in a direction away from the evaporator volume; and a third wall extending from each respective second wall, each third wall having an interior surface, a proximate edge and a distal edge, the proximate edge of each third wall sealingly joined to and extending perpendicularly from the entire distal edge of the adjoining second wall such that the distal edges of the respective third walls abut and sealingly join at the central plane, whereby the interior surface of the first, second and third walls define a condenser volume in fluid communication with the evaporator volume (**see cols. 7 and 8**), a liquid coolant partially filling the condenser and substantially filling the evaporator; and means for cooling the condenser (**see col. 8 line 22-67**).

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6. **As to claim 24**, Terao teaches an apparatus wherein each plate and its respective walls are formed from a unitary piece of material (**see cols. 7 and 8**).

7. **As to claims 25 and 32**, Terao teaches an apparatus wherein at all orientations the evaporator is substantially full of liquid coolant (**see col. 8 lines 55-67 and col. 9**).

8. **As to claim 26**, Terao teaches an apparatus wherein the planar shapes of the evaporator and condenser peripheries are substantially rectangular (**see figure 3**).

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims **29, 33 and 36** are rejected under 35 U.S.C. 103(a) as being unpatentable over Terao et al. (US 6,005,772).

12. **As to claims 29, 33 and 36**, Terao substantially discloses the claimed invention; see rejection of claims 23 above, but does not disclose planar shapes of the evaporator and condenser

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peripheries being substantially square or circular. It would have been obvious matter of design choice to provide planar shapes of the evaporator and condenser peripheries being substantially square or circular in order to improve the cooling process, since applicant has not disclosed that providing planar shapes of the evaporator and condenser peripheries being substantially square or circular solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with other types of shapes like triangle or rectangle.

***Allowable Subject Matter***

Claims **27, 28, 30, 31, 34, 35, 37 and 38** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not disclose a cross-sectional shape of the condenser along an edge of the evaporator and perpendicular to the central plane is generally rectangular, the condenser is generally symmetric about the central plane, and the dimensions of the evaporator and the condenser approximately satisfy the following relationship, where  $H_B$  is the height of the condenser,  $H_E$  is the distance between the interior surface of the second plate and the interior surface of the first plate,  $L_B$  is the distance that the condenser extends from the periphery of the evaporator, perpendicular to the respective edge of the evaporator,  $L_E$  is the length of the evaporator along one edge, and  $W_E$  is the length of the evaporator along an edge perpendicular to the edge having length  $L_E$ :

$$H_B / H_E = (2 L_B + L_E + W_E) / L_E$$

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIHIR PATEL whose telephone number is (571)272-4803. The examiner can normally be reached on 7:30 to 4:30 every other Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia Bianco can be reached on (571) 272-4940. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nihir Patel/  
Examiner, Art Unit 3772

**/Patricia Bianco/  
Supervisory Patent Examiner, Art Unit 3772**

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